# **Special Issue**

### Quantum Measurement and Control in Quantum Machine Learning

### Message from the Guest Editors

Machine learning and optimum stochastic control share similar objectives: to modify the dynamics of a complex stochastic dynamical system using measurement mediated feedback, to minimize the cost function of the output. Quantum control is now a mature subject and includes, in addition to the analogue of classical measurement-based control, a number of uniquely quantum protocols based on coherent control. In this Special Issue, we request papers addressing the role of measurement/coherent quantum control for quantum machine learning. Topics will include:

Noisy intermediate scale quantum (NISQ) learning machines using quantum control for training.

Quantum thermodynamics in quantum machine learning.

Coherent control schemes for quantum machine learning.

The role of quantum information in quantum machine learning.

Coherent Ising machines and similar models.

Quantum machine learning as large scale dissipative many-body systems.

Design protocols for dissipative quantum machine learning.

### **Guest Editors**

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### Deadline for manuscript submissions

closed (31 October 2022)



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### Message from the Editor-in-Chief

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### Editor-in-Chief

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